

**United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101**

Date: 11/08/2012

Subject: Transmittal of Sample Analysis Results for ASR #: 5926

Project ID: MSHCCCI

Project Description: Thompson-Hayward Chemical (HCC) - CI sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch
Laboratory Services and Applied Sciences Division

To: Manuel Schmaedick
SEMD/AERR

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. These results are based on samples as received at the Science and Technology Center. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please ensure that you file this electronic (.pdf only) transmittal in your records management system. The Regional Laboratory will now retain all of the original hardcopy documentation (e.g. COC[s] and the R7LIMS field sheet[s], etc.) according to our LSASD records management system.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the Online ASR Sample/Data Disposition and Customer Survey for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Online ASR Sample/Data Disposition and Customer Survey. It is critical that we receive your response in accordance to RCRA and the laboratory accreditation.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Project Manager: Manuel Schmaedick**Org:** SEMD/AERR**Phone:** 913-551-7449**Project ID:** MSHCCCI**QAPP Number:** GENERIC R7 ER&R**Project Desc:** Thompson-Hayward Chemical (HCC) - CI sampling**Location:** Kansas City**State:** Kansas**Program:** Superfund**Site Name:** THOMPSON-HAYWARD CHEMICAL - KANSAS CITY -
SITE EVALUATION/DISPOSITION**Site ID:** 07E2 **Site OU:** 00**GPRA PRC:** 000DC6**Purpose:** Enforcement

Per THankins (GPRA/site code check) email dated 10/2/12: The Harcos Chemical site is defined as a "child site" in CERCLIS to the Thompson-Hayward Chemical - Kansas City site. Therefore, all charging go against this site ID ... 07E2.

Explanation of Codes, Units and Qualifiers used on this report**Sample QC Codes:** QC Codes identify the type of sample for quality control purpose.**Units:** Specific units in which results are reported. = Field Sample

ug/kg = Micrograms per Kilogram

FD = Field Duplicate

% = Percent

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.

UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.

U = The analyte was not detected at or above the reporting limit.

J = The identification of the analyte is acceptable; the reported value is an estimate.

ASR Number: 5926

Sample Information Summary

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Project ID: MSHCCCI

Project Desc: Thompson-Hayward Chemical (HCC) - CI sampling

| Sample No | QC Code | Matrix | Location Description | External Sample No | Start Date | Start Time | End Date | End Time | Receipt Date |
|-----------|---------|--------------|----------------------|--------------------|------------|------------|------------|----------|--------------|
| 1 - __ | Solid | Background | (0-1') | | 10/03/2012 | 10:15 | 10/03/2012 | 10:30 | 10/04/2012 |
| 2 - __ | Solid | Background | (3-4') | | 10/03/2012 | 10:35 | 10/03/2012 | 10:50 | 10/04/2012 |
| 3 - __ | Solid | North Area 1 | (0-1') | | 10/03/2012 | 10:15 | 10/03/2012 | 10:30 | 10/04/2012 |
| 4 - __ | Solid | North Area 2 | (0-1') | | 10/03/2012 | 10:35 | 10/03/2012 | 10:50 | 10/04/2012 |
| 5 - __ | Solid | Trench 1A | (3-4') | | 10/03/2012 | 11:30 | 10/03/2012 | 11:45 | 10/04/2012 |
| 6 - __ | Solid | Trench 1B | (3-4') | | 10/03/2012 | 11:55 | 10/03/2012 | 12:10 | 10/04/2012 |
| 6 - FD | Solid | Trench 1B | (3-4') | | 10/03/2012 | 11:55 | 10/03/2012 | 12:10 | 10/04/2012 |
| 7 - __ | Solid | Trench 1C | (2-3') | | 10/03/2012 | 12:40 | 10/03/2012 | 12:55 | 10/04/2012 |
| 8 - __ | Solid | Trench 1D | (2-3') | | 10/03/2012 | 13:50 | 10/03/2012 | 14:05 | 10/04/2012 |
| 9 - __ | Solid | Trench 2A | (2-3') | | 10/03/2012 | 14:50 | 10/03/2012 | 15:05 | 10/04/2012 |
| 10 - __ | Solid | Trench 2B | (4-5') | | 10/03/2012 | 15:15 | 10/03/2012 | 15:30 | 10/04/2012 |

Analysis Comments About Results For This Analysis

1 Herbicides in Soil by GC/EC

Lab: Region 7 EPA Laboratory - Kansas City, Ks.**Method:** EPA Region 7 RLAB Method 3240.2I**Basis:** Dry**Samples:** 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 6-FD
7-__ 8-__ 9-__ 10-__**Comments:**

Interferences can add to the results on one column that causes a poor quantitation match between the two columns or can 'mask' the analyte peak. In those cases the column without the interference is U coded. The following results have been U coded for this reason: 2,4-D for samples 8, 9, and 10; 2,4,5-T for sample 8.

Two data results for sample 3 have been J coded due to high recoveries in the matrix spikes. The recoveries for sample 3 for 2,4-D were 428% with the recovery window of 31-101%. The recovery for sample 3 for pentachlorophenol were 45% and 160% with the recovery window of 20-123%. The high recoveries may be the result of the field sample being non-homogeneous and/or the difficulty of mixing the large amount of sample received.

The reporting limits for all field samples have been raised to report the results in dry weight. Additionally sample 8 was further raised by 2.5 times to dilute interferences.

1 Percent Solid

Lab: Region 7 EPA Laboratory - Kansas City, Ks.**Method:** EPA Region 7 RLAB Method 3142.9G**Basis:** N/A**Samples:** 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 6-FD
7-__ 8-__ 9-__ 10-__**Comments:**

(N/A)

1 Pesticides in Soil by GC/EC

Lab: Region 7 EPA Laboratory - Kansas City, Ks.**Method:** EPA Region 7 RLAB Method 3240.2I**Basis:** Dry**Samples:** 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 6-FD
7-__ 8-__ 9-__ 10-__**Comments:**

Interferences can add to the results on one column that causes a poor quantitation match

Analysis Comments About Results For This Analysis

between the two columns or can 'mask' the analyte peak. In those cases the lowest column is reported with a U code. The following results have been U coded for this reason: dieldrin for samples 3 and 4; p,p'-DDE for sample 4; p,p'-DDT for sample 3; p,p'-DDD for samples 3 and 4; and Aroclor 1254 for samples 3 and 4.

The reporting limit for all field samples have been raised to report the results in dry weight. Additionally the following samples were further raised to dilute interferences: 5 times for samples 3, 4, and 5; 10 times for samples 6, 6FD, 7, 9, and 10; and 25 times for sample 8.

1 Semi-Volatile Organic Compounds in Soil

Lab: Region 7 EPA Laboratory - Kansas City, Ks.

Method: EPA Region 7 RLAB Method 3230.2G

Basis: Dry

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 6-FD
7-__ 8-__ 9-__ 10-__

Comments:

Dilutions were necessary in order to obtain valid results due to matrix interferences. The reporting limits were elevated 2 times due to dilutions in samples 1 and 2; 5 times in samples 3 and 4; 10 times in samples 5, 6, 6FD, 7, 9, and 10; and 28 times in sample 8. Additionally, the reporting limits are adjusted for dry weight.

All analytes were UJ-coded in sample 1. The analytes were not found in the sample at or above the reporting limit, however, the reporting limit is an estimate (UJ-coded) due to poor precision obtained for the analytes in the laboratory matrix spike and matrix spike duplicate. The actual reporting limit for the analytes may be higher than the reported values.

Bis(2-Chloroethyl)ether was UJ-coded in sample 1. This analyte was not found in the sample at or above the reporting limit, however, the reporting limit is an estimate (UJ-coded) due to the continuing calibration check not meeting accuracy specifications. The actual reporting limit for this analyte may be higher than the reported value.

4-Nitroaniline and 3,3'-Dichlorobenzidine were UJ-coded in sample 6FD. These analytes were not found in the sample at or above the reporting limit, however, the reporting limit is an estimate (UJ-coded) due to the continuing calibration check not meeting accuracy specifications. The actual reporting limit for these analytes may be higher than the reported values.

Phenol, 2-Chlorophenol, Benzyl Alcohol, 2-Methylphenol, 4-Methylphenol, 2-Nitrophenol, 2,4-Dimethylphenol, 2,4-Dichlorophenol, Benzoic Acid, 4-Chloro-3-methylphenol, 2,4,6-Trichlorophenol, 2,4,5-Trichlorophenol, 2,4-Dinitrophenol, 4-Nitrophenol, 4,6-Dinitro-2-methylphenol and Pentachlorophenol were UJ-coded in sample 10. These analytes were not found in the sample at or above the reporting limit, however, the reporting limit is an estimate (UJ-coded) due to low recovery of the acid surrogate analytes. The actual reporting limit for these analytes may be higher than the reported values.

Di-n-octylphthalate, Benzo(b) and Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-

Analysis Comments About Results For This Analysis

cd)pyrene, Dibenz(a,h)anthracene, and Benzo(g,h,i)perylene were UJ-coded in sample 6FD. These analytes were not found in the sample at or above the reporting limit, however, the reporting limit is an estimate (UJ-coded) due to low internal standard response (matrix effects). The actual reporting limit for these analytes may be higher than the reported values.

1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap

Lab: Region 7 EPA Laboratory - Kansas City, Ks.

Method: EPA Region 7 RLAB Method 3230.16E

Basis: Dry

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 6-FD
7-__ 8-__ 9-__ 10-__

Comments:

2-Hexanone and 1,2-Dibromo-3-Chloropropane were UJ-coded in samples 1-6, 6FD and 7-10. These analytes were not found in the samples at or above the reporting limit, however, the reporting limit is an estimate (UJ-coded) due to the continuing calibration check not meeting accuracy specifications. The Relative Response Factors were low, with deviation and control limits as follows: 2-Hexanone: (41%; limit 20%), 1,2-Dibromo-3-Chloropropane: (23%; limit 20%) The actual reporting limit for these analytes may be higher than the reported value.

Acetone was J-coded in samples 1-6, 6FD and 7-10. Although the analyte in question has been positively identified in the samples, the quantitation is an estimate (J-coded) due to the continuing calibration check not meeting accuracy specifications. The Relative Response Factor was low, with deviation and control limit as follows: (68%; limit 20%) The actual concentration for this analyte may be higher than the reported value.

2-Butanone was J-coded in samples 2 and 8 and UJ-coded in samples 1, 3-6, 6FD, 7, 9 and 10. The value, or reporting limit is an estimate due to the continuing calibration check not meeting accuracy specifications. The Relative Response Factor was low, with deviation and control limit as follows: (51%; limit 20%) The actual concentration or reporting limit for this analyte may be higher than the reported value.

1,2-Dibromoethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, Isopropylbenzene, Dibromochloromethane, 1,1,2,2-Tetrachloroethane, Chlorobenzene, Ethyl benzene, Styrene, m- and/or p-Xylene, o-Xylene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, Bromoform, 1,4-Dichlorobenzene, Naphthalene, trans-1,3-Dichloropropene, 2-Hexanone, 1,1,2-Trichloroethane and 1,2-Dibromo-3-Chloropropane were UJ-coded in samples 5 and 8. Tetrachloroethene was J-coded. These analytes were reported with estimated values due to low internal standard response (<50%). Values may be higher than reported.

ASR Number: 5926
Project ID: MSHCCCI

RLAB Approved Sample Analysis Results

11/08/2012

Project Desc: Thompson-Hayward Chemical (HCC) - CI sampling

| Analysis/ Analyte | Units | 1-__ | 2-__ | 3-__ | 4-__ |
|--|--------------|-------------|-------------|-------------|-------------|
| 1 Herbicides in Soil by GC/EC | | | | | |
| 2,4,5-T | ug/kg | 11 U | 11 U | 250 | 440 |
| 2,4,5-TP | ug/kg | 11 U | 11 U | 1600 | 1900 |
| 2,4-D | ug/kg | 22 U | 22 U | 430 J | 1600 |
| Dicamba | ug/kg | 11 U | 11 U | 10 U | 10 U |
| Pentachlorophenol | ug/kg | 4.4 U | 4.4 U | 12 J | 7.1 |
| 1 Percent Solid | | | | | |
| Solids, percent | % | 93.4 | 91.0 | 94.4 | 95.8 |
| 1 Pesticides in Soil by GC/EC | | | | | |
| Aldrin | ug/kg | 1.3 U | 1.3 U | 6.0 U | 6.0 U |
| Aroclor 1016 | ug/kg | 44 U | 44 U | 200 U | 200 U |
| Aroclor 1221 | ug/kg | 44 U | 44 U | 200 U | 200 U |
| Aroclor 1232 | ug/kg | 44 U | 44 U | 200 U | 200 U |
| Aroclor 1242 | ug/kg | 44 U | 44 U | 200 U | 200 U |
| Aroclor 1248 | ug/kg | 44 U | 44 U | 200 U | 200 U |
| Aroclor 1254 | ug/kg | 22 U | 22 U | 80 U | 65 U |
| Aroclor 1260 | ug/kg | 22 U | 22 U | 100 U | 100 U |
| A-BHC | ug/kg | 0.66 U | 0.66 U | 3.0 U | 3.0 U |
| B-BHC | ug/kg | 2.2 U | 2.2 U | 10 U | 10 U |
| D-BHC | ug/kg | 0.88 U | 0.88 U | 4.0 U | 4.0 U |
| G-BHC | ug/kg | 0.88 U | 0.88 U | 4.0 U | 4.0 U |
| Chlordane, technical | ug/kg | 8.8 U | 8.8 U | 74 | 37 |
| p,p'-DDD | ug/kg | 1.8 U | 1.8 U | 6.5 U | 23 U |
| p,p'-DDE | ug/kg | 2.2 U | 2.2 U | 15 | 14 U |
| p,p'-DDT | ug/kg | 2.2 U | 2.2 U | 20 U | 91 |
| Dieldrin | ug/kg | 1.3 U | 1.3 U | 19 U | 11 |
| Endosulfan I | ug/kg | 1.3 U | 1.3 U | 6.0 U | 6.0 U |
| Endosulfan II | ug/kg | 1.8 U | 1.8 U | 8.0 U | 8.0 U |
| Endosulfan Sulfate | ug/kg | 1.8 U | 1.8 U | 8.0 U | 8.0 U |
| Endrin | ug/kg | 1.8 U | 1.8 U | 8.0 U | 8.0 U |
| Endrin Aldehyde | ug/kg | 2.2 U | 2.2 U | 10 U | 10 U |
| Endrin Ketone | ug/kg | 1.8 U | 1.8 U | 8.0 U | 8.0 U |
| Heptachlor | ug/kg | 1.3 U | 1.3 U | 6.0 U | 6.0 U |
| Heptachlor Epoxide | ug/kg | 1.3 U | 1.3 U | 6.0 U | 6.0 U |
| p,p'-Methoxychlor | ug/kg | 4.4 U | 4.4 U | 20 U | 20 U |
| Toxaphene | ug/kg | 44 U | 44 U | 200 U | 200 U |
| 1 Semi-Volatile Organic Compounds in Soil | | | | | |
| Acenaphthene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Acenaphthylene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Anthracene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Benzo(a)anthracene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Benzo(a)pyrene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Benzo(b)fluoranthene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Benzo(g,h,i)perylene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Benzo(k)fluoranthene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Benzoic acid | ug/kg | 850 UJ | 860 U | 2100 U | 2000 U |

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RLAB Approved Sample Analysis Results

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Project Desc: Thompson-Hayward Chemical (HCC) - CI sampling

| Analysis/ Analyte | Units | 1-__ | 2-__ | 3-__ | 4-__ |
|-----------------------------|--------------|-------------|-------------|-------------|-------------|
| Benzyl alcohol | ug/kg | 850 UJ | 860 U | 2100 U | 2000 U |
| bis(2-Chloroethoxy)methane | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| bis(2-Chloroethyl)ether | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| bis(2-Chloroisopropyl)ether | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| bis(2-Ethylhexyl)phthalate | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| 4-Bromophenyl-phenylether | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Butylbenzylphthalate | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| Carbazole | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| 4-Chloro-3-methylphenol | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| 4-Chloroaniline | ug/kg | 850 UJ | 860 U | 2100 U | 2000 U |
| 2-Chloronaphthalene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 2-Chlorophenol | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| 4-Chlorophenyl-phenylether | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Chrysene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Di-n-butylphthalate | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| Di-n-octylphthalate | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| Dibenz(a,h)anthracene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Dibenzofuran | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 1,2-Dichlorobenzene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 1,3-Dichlorobenzene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 1,4-Dichlorobenzene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 3,3'-Dichlorobenzidine | ug/kg | 850 UJ | 860 U | 2100 U | 2000 U |
| 2,4-Dichlorophenol | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| Diethylphthalate | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 2,4-Dimethylphenol | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Dimethylphthalate | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | 850 UJ | 860 U | 2100 U | 2000 U |
| 2,4-Dinitrophenol | ug/kg | 850 UJ | 860 U | 2100 U | 2000 U |
| 2,4-Dinitrotoluene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 2,6-Dinitrotoluene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Fluoranthene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Fluorene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Hexachlorobenzene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Hexachlorobutadiene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Hexachlorocyclopentadiene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Hexachloroethane | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Indeno(1,2,3-cd)pyrene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Isophorone | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 2-Methylnaphthalene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 2-Methylphenol | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| 4-Methylphenol | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| Naphthalene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 2-Nitroaniline | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| 3-Nitroaniline | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| 4-Nitroaniline | ug/kg | 850 UJ | 860 U | 2100 U | 2000 U |

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| Analysis/ Analyte | Units | 1-__ | 2-__ | 3-__ | 4-__ |
|--|--------------|-------------|-------------|-------------|-------------|
| Nitrobenzene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 2-Nitrophenol | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| 4-Nitrophenol | ug/kg | 850 UJ | 860 U | 2100 U | 2000 U |
| N-nitroso-di-n-propylamine | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| N-nitrosodiphenylamine | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Pentachlorophenol | ug/kg | 850 UJ | 860 U | 2100 U | 2000 U |
| Phenanthrene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Phenol | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| Pyrene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 1,2,4-Trichlorobenzene | ug/kg | 170 UJ | 170 U | 420 U | 410 U |
| 2,4,5-Trichlorophenol | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| 2,4,6-Trichlorophenol | ug/kg | 420 UJ | 430 U | 1000 U | 1000 U |
| 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap | | | | | |
| Acetone | ug/kg | 31 J | 34 J | 23 J | 19 J |
| Benzene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Bromodichloromethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Bromoform | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Bromomethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 2-Butanone | ug/kg | 6.2 UJ | 7.0 J | 4.7 UJ | 5.9 UJ |
| Carbon Disulfide | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Carbon Tetrachloride | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Chlorobenzene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Chloroethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Chloroform | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Chloromethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Cyclohexane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,2-Dibromo-3-Chloropropane | ug/kg | 6.2 UJ | 6.7 UJ | 4.7 UJ | 5.9 UJ |
| Dibromochloromethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,2-Dibromoethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,2-Dichlorobenzene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,3-Dichlorobenzene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,4-Dichlorobenzene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Dichlorodifluoromethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,1-Dichloroethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,2-Dichloroethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,1-Dichloroethene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| cis-1,2-Dichloroethene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| trans-1,2-Dichloroethene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,2-Dichloropropane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| cis-1,3-Dichloropropene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| trans-1,3-Dichloropropene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Ethyl Benzene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 2-Hexanone | ug/kg | 6.2 UJ | 6.7 UJ | 4.7 UJ | 5.9 UJ |
| Isopropylbenzene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Methyl Acetate | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |

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| Analysis/ Analyte | Units | 1-__ | 2-__ | 3-__ | 4-__ |
|--------------------------------|--------------|-------------|-------------|-------------|-------------|
| Methyl tert-butyl ether | ug/kg | 12 U | 13 U | 9.4 U | 12 U |
| Methylcyclohexane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Methylene Chloride | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 4-Methyl-2-Pentanone | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Naphthalene | ug/kg | 12 U | 13 U | 9.4 U | 12 U |
| Styrene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Tetrachloroethene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Toluene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,2,3-Trichlorobenzene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,2,4-Trichlorobenzene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,1,1-Trichloroethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,1,2-Trichloroethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Trichloroethene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Trichlorofluoromethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| 1,1,2-Trichlorotrifluoroethane | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| Vinyl Chloride | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |
| m and/or p-Xylene | ug/kg | 12 U | 13 U | 9.4 U | 12 U |
| o-Xylene | ug/kg | 6.2 U | 6.7 U | 4.7 U | 5.9 U |

ASR Number: 5926
Project ID: MSHCCCI

RLAB Approved Sample Analysis Results

11/08/2012

Project Desc: Thompson-Hayward Chemical (HCC) - CI sampling

| Analysis/ Analyte | Units | 5-__ | 6-__ | 6-FD | 7-__ |
|--|--------------|-------------|-------------|-------------|-------------|
| 1 Herbicides in Soil by GC/EC | | | | | |
| 2,4,5-T | ug/kg | 11 U | 11 U | 11 U | 11 U |
| 2,4,5-TP | ug/kg | 11 U | 11 U | 11 U | 11 U |
| 2,4-D | ug/kg | 22 U | 22 U | 22 U | 22 U |
| Dicamba | ug/kg | 11 U | 11 U | 11 U | 11 U |
| Pentachlorophenol | ug/kg | 4.4 U | 4.4 U | 4.4 U | 4.4 U |
| 1 Percent Solid | | | | | |
| Solids, percent | % | 90.7 | 93.1 | 93.5 | 92.6 |
| 1 Pesticides in Soil by GC/EC | | | | | |
| Aldrin | ug/kg | 6.6 U | 6.6 U | 6.6 U | 6.6 U |
| Aroclor 1016 | ug/kg | 220 U | 220 U | 220 U | 220 U |
| Aroclor 1221 | ug/kg | 220 U | 220 U | 220 U | 220 U |
| Aroclor 1232 | ug/kg | 220 U | 220 U | 220 U | 220 U |
| Aroclor 1242 | ug/kg | 220 U | 220 U | 220 U | 220 U |
| Aroclor 1248 | ug/kg | 220 U | 220 U | 220 U | 220 U |
| Aroclor 1254 | ug/kg | 110 U | 110 U | 110 U | 110 U |
| Aroclor 1260 | ug/kg | 110 U | 110 U | 110 U | 110 U |
| A-BHC | ug/kg | 3.3 U | 3.3 U | 3.3 U | 3.3 U |
| B-BHC | ug/kg | 11 U | 11 U | 11 U | 11 U |
| D-BHC | ug/kg | 4.4 U | 4.4 U | 4.4 U | 4.4 U |
| G-BHC | ug/kg | 4.4 U | 4.4 U | 4.4 U | 4.4 U |
| Chlordane, technical | ug/kg | 44 U | 44 U | 44 U | 44 U |
| p,p'-DDD | ug/kg | 8.8 U | 8.8 U | 8.8 U | 8.8 U |
| p,p'-DDE | ug/kg | 11 U | 11 U | 11 U | 11 U |
| p,p'-DDT | ug/kg | 11 U | 11 U | 11 U | 11 U |
| Dieldrin | ug/kg | 6.6 U | 6.6 U | 6.6 U | 6.6 U |
| Endosulfan I | ug/kg | 6.6 U | 6.6 U | 6.6 U | 6.6 U |
| Endosulfan II | ug/kg | 8.8 U | 8.8 U | 8.8 U | 8.8 U |
| Endosulfan Sulfate | ug/kg | 8.8 U | 8.8 U | 8.8 U | 8.8 U |
| Endrin | ug/kg | 8.8 U | 8.8 U | 8.8 U | 8.8 U |
| Endrin Aldehyde | ug/kg | 11 U | 11 U | 11 U | 11 U |
| Endrin Ketone | ug/kg | 8.8 U | 8.8 U | 8.8 U | 8.8 U |
| Heptachlor | ug/kg | 6.6 U | 6.6 U | 6.6 U | 6.6 U |
| Heptachlor Epoxide | ug/kg | 6.6 U | 6.6 U | 6.6 U | 6.6 U |
| p,p'-Methoxychlor | ug/kg | 22 U | 22 U | 22 U | 22 U |
| Toxaphene | ug/kg | 220 U | 220 U | 220 U | 220 U |
| 1 Semi-Volatile Organic Compounds in Soil | | | | | |
| Acenaphthene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Acenaphthylene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Anthracene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Benzo(a)anthracene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Benzo(a)pyrene | ug/kg | 880 U | 850 U | 850 UJ | 1700 U |
| Benzo(b)fluoranthene | ug/kg | 880 U | 850 U | 850 UJ | 1700 U |
| Benzo(g,h,i)perylene | ug/kg | 880 U | 850 U | 850 UJ | 1700 U |
| Benzo(k)fluoranthene | ug/kg | 880 U | 850 U | 850 UJ | 1700 U |
| Benzoic acid | ug/kg | 4400 U | 4200 U | 4300 U | 4200 U |

ASR Number: 5926**Project ID:** MSHCCCI**RLAB Approved Sample Analysis Results****11/08/2012****Project Desc:** Thompson-Hayward Chemical (HCC) - CI sampling

| Analysis/ Analyte | Units | 5-__ | 6-__ | 6-FD | 7-__ |
|-----------------------------|--------------|-------------|-------------|-------------|-------------|
| Benzyl alcohol | ug/kg | 4400 U | 4200 U | 4300 U | 4200 U |
| bis(2-Chloroethoxy)methane | ug/kg | 880 U | 850 U | 850 U | 830 U |
| bis(2-Chloroethyl)ether | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| bis(2-Chloroisopropyl)ether | ug/kg | 880 U | 850 U | 850 U | 830 U |
| bis(2-Ethylhexyl)phthalate | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| 4-Bromophenyl-phenylether | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Butylbenzylphthalate | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| Carbazole | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| 4-Chloro-3-methylphenol | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| 4-Chloroaniline | ug/kg | 4400 U | 4200 U | 4300 U | 4200 U |
| 2-Choronaphthalene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 2-Chlorophenol | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| 4-Chlorophenyl-phenylether | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Chrysene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Di-n-butylphthalate | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| Di-n-octylphthalate | ug/kg | 2200 U | 2100 U | 2100 UJ | 4200 U |
| Dibenz(a,h)anthracene | ug/kg | 880 U | 850 U | 850 UJ | 1700 U |
| Dibenzofuran | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 1,2-Dichlorobenzene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 1,3-Dichlorobenzene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 1,4-Dichlorobenzene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 3,3'-Dichlorobenzidine | ug/kg | 4400 U | 4200 U | 4300 UJ | 4200 U |
| 2,4-Dichlorophenol | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| Diethylphthalate | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 2,4-Dimethylphenol | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Dimethylphthalate | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | 4400 U | 4200 U | 4300 U | 4200 U |
| 2,4-Dinitrophenol | ug/kg | 4400 U | 4200 U | 4300 U | 4200 U |
| 2,4-Dinitrotoluene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 2,6-Dinitrotoluene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Fluoranthene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Fluorene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Hexachlorobenzene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Hexachlorobutadiene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Hexachlorocyclopentadiene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Hexachloroethane | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Indeno(1,2,3-cd)pyrene | ug/kg | 880 U | 850 U | 850 UJ | 1700 U |
| Isophorone | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 2-Methylnaphthalene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 2-Methylphenol | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| 4-Methylphenol | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| Naphthalene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 2-Nitroaniline | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| 3-Nitroaniline | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| 4-Nitroaniline | ug/kg | 4400 U | 4200 U | 4300 UJ | 4200 U |

ASR Number: 5926**Project ID:** MSHCCCI**RLAB Approved Sample Analysis Results****11/08/2012****Project Desc:** Thompson-Hayward Chemical (HCC) - CI sampling

| Analysis/ Analyte | Units | 5-__ | 6-__ | 6-FD | 7-__ |
|--|--------------|-------------|-------------|-------------|-------------|
| Nitrobenzene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 2-Nitrophenol | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| 4-Nitrophenol | ug/kg | 4400 U | 4200 U | 4300 U | 4200 U |
| N-nitroso-di-n-propylamine | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| N-nitrosodiphenylamine | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Pentachlorophenol | ug/kg | 4400 U | 4200 U | 4300 U | 4200 U |
| Phenanthrene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Phenol | ug/kg | 880 U | 850 U | 850 U | 830 U |
| Pyrene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 1,2,4-Trichlorobenzene | ug/kg | 880 U | 850 U | 850 U | 830 U |
| 2,4,5-Trichlorophenol | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| 2,4,6-Trichlorophenol | ug/kg | 2200 U | 2100 U | 2100 U | 2100 U |
| 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap | | | | | |
| Acetone | ug/kg | 39 J | 28 J | 23 J | 56 J |
| Benzene | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| Bromodichloromethane | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| Bromoform | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| Bromomethane | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| 2-Butanone | ug/kg | 7.9 UJ | 5.4 UJ | 5.6 UJ | 6.8 UJ |
| Carbon Disulfide | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| Carbon Tetrachloride | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| Chlorobenzene | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| Chloroethane | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| Chloroform | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| Chloromethane | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| Cyclohexane | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| 1,2-Dibromo-3-Chloropropane | ug/kg | 7.9 UJ | 5.4 UJ | 5.6 UJ | 6.8 UJ |
| Dibromochloromethane | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| 1,2-Dibromoethane | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| 1,2-Dichlorobenzene | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| 1,3-Dichlorobenzene | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| 1,4-Dichlorobenzene | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| Dichlorodifluoromethane | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| 1,1-Dichloroethane | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| 1,2-Dichloroethane | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| 1,1-Dichloroethene | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| cis-1,2-Dichloroethene | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| trans-1,2-Dichloroethene | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| 1,2-Dichloropropane | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| cis-1,3-Dichloropropene | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| trans-1,3-Dichloropropene | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| Ethyl Benzene | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| 2-Hexanone | ug/kg | 7.9 UJ | 5.4 UJ | 5.6 UJ | 6.8 UJ |
| Isopropylbenzene | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| Methyl Acetate | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |

ASR Number: 5926
Project ID: MSHCCCI

RLAB Approved Sample Analysis Results

11/08/2012

Project Desc: Thompson-Hayward Chemical (HCC) - CI sampling

| Analysis/ Analyte | Units | 5-__ | 6-__ | 6-FD | 7-__ |
|--------------------------------|--------------|-------------|-------------|-------------|-------------|
| Methyl tert-butyl ether | ug/kg | 16 U | 11 U | 11 U | 14 U |
| Methylcyclohexane | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| Methylene Chloride | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| 4-Methyl-2-Pentanone | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| Naphthalene | ug/kg | 16 UJ | 11 U | 11 U | 14 U |
| Styrene | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| Tetrachloroethene | ug/kg | 16 J | 5.4 U | 5.6 U | 6.8 U |
| Toluene | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| 1,2,3-Trichlorobenzene | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| 1,2,4-Trichlorobenzene | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| 1,1,1-Trichloroethane | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| 1,1,2-Trichloroethane | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |
| Trichloroethene | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| Trichlorofluoromethane | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| 1,1,2-Trichlorotrifluoroethane | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| Vinyl Chloride | ug/kg | 7.9 U | 5.4 U | 5.6 U | 6.8 U |
| m and/or p-Xylene | ug/kg | 16 UJ | 11 U | 11 U | 14 U |
| o-Xylene | ug/kg | 7.9 UJ | 5.4 U | 5.6 U | 6.8 U |

ASR Number: 5926
Project ID: MSHCCCI

RLAB Approved Sample Analysis Results

11/08/2012

Project Desc: Thompson-Hayward Chemical (HCC) - CI sampling

| Analysis/ Analyte | Units | 8-__ | 9-__ | 10-__ |
|--|--------------|-------------|-------------|--------------|
| 1 Herbicides in Soil by GC/EC | | | | |
| 2,4,5-T | ug/kg | 29 U | 10 U | 14 |
| 2,4,5-TP | ug/kg | 29 | 10 U | 52 |
| 2,4-D | ug/kg | 60 U | 23 U | 61 U |
| Dicamba | ug/kg | 25 U | 10 U | 11 U |
| Pentachlorophenol | ug/kg | 10 U | 4.0 U | 4.4 U |
| 1 Percent Solid | | | | |
| Solids, percent | % | 94.0 | 91.9 | 93.3 |
| 1 Pesticides in Soil by GC/EC | | | | |
| Aldrin | ug/kg | 16 U | 6.6 U | 6.6 U |
| Aroclor 1016 | ug/kg | 520 U | 220 U | 220 U |
| Aroclor 1221 | ug/kg | 520 U | 220 U | 220 U |
| Aroclor 1232 | ug/kg | 520 U | 220 U | 220 U |
| Aroclor 1242 | ug/kg | 520 U | 220 U | 220 U |
| Aroclor 1248 | ug/kg | 520 U | 220 U | 220 U |
| Aroclor 1254 | ug/kg | 260 U | 110 U | 110 U |
| Aroclor 1260 | ug/kg | 260 U | 110 U | 110 U |
| A-BHC | ug/kg | 7.8 U | 3.3 U | 3.3 U |
| B-BHC | ug/kg | 26 U | 11 U | 11 U |
| D-BHC | ug/kg | 10 U | 4.4 U | 4.4 U |
| G-BHC | ug/kg | 10 U | 4.4 U | 4.4 U |
| Chlordane, technical | ug/kg | 100 U | 44 U | 44 U |
| p,p'-DDD | ug/kg | 21 U | 8.8 U | 8.8 U |
| p,p'-DDE | ug/kg | 26 U | 11 U | 11 U |
| p,p'-DDT | ug/kg | 26 U | 11 U | 11 U |
| Dieldrin | ug/kg | 16 U | 6.6 U | 6.6 U |
| Endosulfan I | ug/kg | 16 U | 6.6 U | 6.6 U |
| Endosulfan II | ug/kg | 21 U | 8.8 U | 8.8 U |
| Endosulfan Sulfate | ug/kg | 21 U | 8.8 U | 8.8 U |
| Endrin | ug/kg | 21 U | 8.8 U | 8.8 U |
| Endrin Aldehyde | ug/kg | 26 U | 11 U | 11 U |
| Endrin Ketone | ug/kg | 21 U | 8.8 U | 8.8 U |
| Heptachlor | ug/kg | 16 U | 6.6 U | 6.6 U |
| Heptachlor Epoxide | ug/kg | 16 U | 6.6 U | 6.6 U |
| p,p'-Methoxychlor | ug/kg | 52 U | 22 U | 22 U |
| Toxaphene | ug/kg | 520 U | 220 U | 220 U |
| 1 Semi-Volatile Organic Compounds in Soil | | | | |
| Acenaphthene | ug/kg | 2300 U | 800 U | 800 U |
| Acenaphthylene | ug/kg | 2300 U | 800 U | 800 U |
| Anthracene | ug/kg | 2300 U | 800 U | 800 U |
| Benzo(a)anthracene | ug/kg | 2300 U | 800 U | 800 U |
| Benzo(a)pyrene | ug/kg | 4600 U | 1600 U | 1600 U |
| Benzo(b)fluoranthene | ug/kg | 4600 U | 1600 U | 1600 U |
| Benzo(g,h,i)perylene | ug/kg | 4600 U | 1600 U | 1600 U |
| Benzo(k)fluoranthene | ug/kg | 4600 U | 1600 U | 1600 U |
| Benzoic acid | ug/kg | 12000 U | 4000 U | 4000 U |

| Analysis/ Analyte | Units | 8-__ | 9-__ | 10-__ |
|-----------------------------|--------------|-------------|-------------|--------------|
| Benzyl alcohol | ug/kg | 12000 U | 4000 U | 4000 UJ |
| bis(2-Chloroethoxy)methane | ug/kg | 2300 U | 800 U | 800 U |
| bis(2-Chloroethyl)ether | ug/kg | 5800 U | 2000 U | 2000 U |
| bis(2-Chloroisopropyl)ether | ug/kg | 2300 U | 800 U | 800 U |
| bis(2-Ethylhexyl)phthalate | ug/kg | 5800 U | 2000 U | 2000 U |
| 4-Bromophenyl-phenylether | ug/kg | 2300 U | 800 U | 800 U |
| Butylbenzylphthalate | ug/kg | 5800 U | 2000 U | 2000 U |
| Carbazole | ug/kg | 5800 U | 2000 U | 2000 U |
| 4-Chloro-3-methylphenol | ug/kg | 5800 U | 2000 U | 2000 UJ |
| 4-Chloroaniline | ug/kg | 12000 U | 4000 U | 4000 U |
| 2-Choronaphthalene | ug/kg | 2300 U | 800 U | 800 U |
| 2-Chlorophenol | ug/kg | 5800 U | 2000 U | 2000 UJ |
| 4-Chlorophenyl-phenylether | ug/kg | 2300 U | 800 U | 800 U |
| Chrysene | ug/kg | 2300 U | 800 U | 800 U |
| Di-n-butylphthalate | ug/kg | 5800 U | 2000 U | 2000 U |
| Di-n-octylphthalate | ug/kg | 12000 U | 4000 U | 4000 U |
| Dibenz(a,h)anthracene | ug/kg | 4600 U | 1600 U | 1600 U |
| Dibenzofuran | ug/kg | 2300 U | 800 U | 800 U |
| 1,2-Dichlorobenzene | ug/kg | 2300 U | 800 U | 800 U |
| 1,3-Dichlorobenzene | ug/kg | 2300 U | 800 U | 800 U |
| 1,4-Dichlorobenzene | ug/kg | 2300 U | 800 U | 800 U |
| 3,3'-Dichlorobenzidine | ug/kg | 12000 U | 4000 U | 4000 U |
| 2,4-Dichlorophenol | ug/kg | 5800 U | 2000 U | 2000 UJ |
| Diethylphthalate | ug/kg | 2300 U | 800 U | 800 U |
| 2,4-Dimethylphenol | ug/kg | 2300 U | 800 U | 800 UJ |
| Dimethylphthalate | ug/kg | 2300 U | 800 U | 800 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | 12000 U | 4000 U | 4000 UJ |
| 2,4-Dinitrophenol | ug/kg | 12000 U | 4000 U | 4000 UJ |
| 2,4-Dinitrotoluene | ug/kg | 2300 U | 800 U | 800 U |
| 2,6-Dinitrotoluene | ug/kg | 2300 U | 800 U | 800 U |
| Fluoranthene | ug/kg | 2300 U | 800 U | 800 U |
| Fluorene | ug/kg | 2300 U | 800 U | 800 U |
| Hexachlorobenzene | ug/kg | 2300 U | 800 U | 800 U |
| Hexachlorobutadiene | ug/kg | 2300 U | 800 U | 800 U |
| Hexachlorocyclopentadiene | ug/kg | 2300 U | 800 U | 800 U |
| Hexachloroethane | ug/kg | 2300 U | 800 U | 800 U |
| Indeno(1,2,3-cd)pyrene | ug/kg | 4600 U | 1600 U | 1600 U |
| Isophorone | ug/kg | 2300 U | 800 U | 800 U |
| 2-Methylnaphthalene | ug/kg | 2300 U | 800 U | 800 U |
| 2-Methylphenol | ug/kg | 5800 U | 2000 U | 2000 UJ |
| 4-Methylphenol | ug/kg | 5800 U | 2000 U | 2000 UJ |
| Naphthalene | ug/kg | 2300 U | 800 U | 800 U |
| 2-Nitroaniline | ug/kg | 5800 U | 2000 U | 2000 U |
| 3-Nitroaniline | ug/kg | 5800 U | 2000 U | 2000 U |
| 4-Nitroaniline | ug/kg | 12000 U | 4000 U | 4000 U |

ASR Number: 5926
Project ID: MSHCCCI

RLAB Approved Sample Analysis Results

11/08/2012

Project Desc: Thompson-Hayward Chemical (HCC) - CI sampling

| Analysis/ Analyte | Units | 8-__ | 9-__ | 10-__ |
|---|--------------|-------------|-------------|--------------|
| Nitrobenzene | ug/kg | 2300 U | 800 U | 800 U |
| 2-Nitrophenol | ug/kg | 5800 U | 2000 U | 2000 UJ |
| 4-Nitrophenol | ug/kg | 12000 U | 4000 U | 4000 UJ |
| N-nitroso-di-n-propylamine | ug/kg | 5800 U | 2000 U | 2000 U |
| N-nitrosodiphenylamine | ug/kg | 2300 U | 800 U | 800 U |
| Pentachlorophenol | ug/kg | 12000 U | 4000 U | 4000 UJ |
| Phenanthrene | ug/kg | 2300 U | 800 U | 800 U |
| Phenol | ug/kg | 2300 U | 800 U | 800 UJ |
| Pyrene | ug/kg | 2300 U | 800 U | 800 U |
| 1,2,4-Trichlorobenzene | ug/kg | 2300 U | 800 U | 800 U |
| 2,4,5-Trichlorophenol | ug/kg | 5800 U | 2000 U | 2000 UJ |
| 2,4,6-Trichlorophenol | ug/kg | 5800 U | 2000 U | 2000 UJ |
| 1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap | | | | |
| Acetone | ug/kg | 39 J | 40 J | 39 J |
| Benzene | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| Bromodichloromethane | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| Bromoform | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| Bromomethane | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| 2-Butanone | ug/kg | 9.0 J | 6.8 UJ | 6.4 UJ |
| Carbon Disulfide | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| Carbon Tetrachloride | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| Chlorobenzene | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| Chloroethane | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| Chloroform | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| Chloromethane | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| Cyclohexane | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| 1,2-Dibromo-3-Chloropropane | ug/kg | 6.6 UJ | 6.8 UJ | 6.4 UJ |
| Dibromochloromethane | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| 1,2-Dibromoethane | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| 1,2-Dichlorobenzene | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| 1,3-Dichlorobenzene | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| 1,4-Dichlorobenzene | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| Dichlorodifluoromethane | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| 1,1-Dichloroethane | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| 1,2-Dichloroethane | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| 1,1-Dichloroethene | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| cis-1,2-Dichloroethene | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| trans-1,2-Dichloroethene | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| 1,2-Dichloropropane | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| cis-1,3-Dichloropropene | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| trans-1,3-Dichloropropene | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| Ethyl Benzene | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| 2-Hexanone | ug/kg | 6.6 UJ | 6.8 UJ | 6.4 UJ |
| Isopropylbenzene | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| Methyl Acetate | ug/kg | 6.6 U | 6.8 U | 6.4 U |

ASR Number: 5926
Project ID: MSHCCCI

RLAB Approved Sample Analysis Results

11/08/2012

Project Desc: Thompson-Hayward Chemical (HCC) - CI sampling

| Analysis/ Analyte | Units | 8-__ | 9-__ | 10-__ |
|--------------------------------|--------------|-------------|-------------|--------------|
| Methyl tert-butyl ether | ug/kg | 13 U | 14 U | 13 U |
| Methylcyclohexane | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| Methylene Chloride | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| 4-Methyl-2-Pentanone | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| Naphthalene | ug/kg | 13 UJ | 14 U | 13 U |
| Styrene | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| Tetrachloroethene | ug/kg | 25 J | 6.8 U | 6.4 U |
| Toluene | ug/kg | 9.3 | 6.8 U | 6.4 U |
| 1,2,3-Trichlorobenzene | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| 1,2,4-Trichlorobenzene | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| 1,1,1-Trichloroethane | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| 1,1,2-Trichloroethane | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |
| Trichloroethene | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| Trichlorofluoromethane | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| 1,1,2-Trichlorotrifluoroethane | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| Vinyl Chloride | ug/kg | 6.6 U | 6.8 U | 6.4 U |
| m and/or p-Xylene | ug/kg | 13 UJ | 14 U | 13 U |
| o-Xylene | ug/kg | 6.6 UJ | 6.8 U | 6.4 U |